



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/628,261	07/28/2000	Michael Y. Franke	CNA 135	3723
2292	7590	11/19/2003	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			PHAN, HANH	
			ART UNIT	PAPER NUMBER
			2633	
			DATE MAILED: 11/19/2003	

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/628,261

Applicant(s)

FRANKEL, MICHAEL Y.

Examiner

Hanh Phan

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because blank boxes shown in figure 1 should be labeled. For example, the blank boxes 26, 28, 30 and 34 in figure 1 should be labeled. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ford et al (US Patent No. 6,392,769) in view of Okano et al (US Patent No. 6,449,074).

Regarding claims 1 and 10, referring to figure 4, Ford discloses an optical device comprising:

a plurality of separate optical paths (Fig. 4), each of which receiving one or more separate optical signals (i.e., separate optical signals  $\lambda_1, \lambda_2, \dots, \lambda_n$ );

Art Unit: 2633

a plurality of optical power monitors (i.e., optical detectors 405, Fig. 4), each of which being configured to sense a respective total signal power on an associated the separate optical paths (from col. 6, line 60 to col. 7, line 4).

Ford differs from claim 1 in that he fails to teach a plurality of idler lasers, each of which being configured to provide a compensating wavelength for injection into an associated one of the optical signal paths in response to an associated total signal power sensed by an associated one of the optical power monitors. However, Okana teaches a plurality of idler lasers (i.e., light sources 52, Figs. 7 and 11, col. 7, lines 45-67 and col. 10, lines 61-65), each of which being configured to provide a compensating wavelength for injection into an associated one of the optical signal paths in response to an associated total signal power sensed by an associated one of the optical power monitors. Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the plurality of idler lasers, each of which being configured to provide a compensating wavelength for injection into an associated one of the optical signal paths in response to an associated total signal power sensed by an associated one of the optical power monitors as taught by Okano in the system of Ford. One of ordinary skill in the art would have been motivated to do this since Okano suggests in col. 7, lines 45-67 and col. 10, lines 61-65 that using such a plurality of idler lasers, each of which being configured to provide a compensating wavelength for injection into an associated one of the optical signal paths in response to an associated total signal power sensed by an associated one of the optical power monitors have

Art Unit: 2633

advantage of allowing compensating the total signal power such that the total power of wavelength signal light to be obtained becomes substantially constant.

Regarding claims 2 and 8, the combination of Ford and Okano further teaches each compensating wavelength is provided for maintaining a substantially constant optical signal power on the associated one of the optical signal paths (col. 7 of Okano, lines 64-67 and col. 10, lines 61-65).

Regarding claim 3, Ford teaches further comprises a demultiplexer (i.e., demultiplexer 401, Fig. 4 of Ford) having a plurality of outputs, each of the separate optical paths being coupled to an associated one of the outputs for receiving the one or more separate optical signals.

Regarding claim 4, Ford teaches further comprises a multiplexer (i.e., multiplexer 404, Fig. 4 of Ford) having a plurality of inputs, each of a plurality of the optical paths being coupled to an associated one of the optical inputs, the multiplexer (404)(Fig. 4 of Ford) providing an output comprising the one or more separate optical signals on each of the plurality of optical paths.

Regarding claim 5, the combination of Ford and Okano teaches further comprises a plurality of data modulators, each of which being configured to modulate data on an associated one of the compensating wavelengths (col. 7 of Okano, lines 57-67 and col. 10, lines 61-65).

Regarding claims 7 and 11, the combination of Ford and Okano teaches an optical device comprising:

a demultiplexer (401)(Fig. 4 of Ford) having a plurality of outputs,

Art Unit: 2633

a plurality of separate optical paths, each of which being coupled to a respective one of the plurality of outputs for receiving one or more separate optical signals (Fig. 4 of Ford);

a plurality of optical power monitors (i.e., optical detectors 405, Fig. 4 of Ford), each of which being configured to sense a respective total signal power on an associated one of the separate optical paths (from col. 6 of Ford, line 60 to col. 7, line 4;

a plurality of idler lasers (i.e., light sources 52, Figs. 7 and 11 of Okano, col. 7, lines 45-67 and col. 10, lines 61-65), each of which being configured to provide a compensating wavelength for injection into an associated one of the optical paths in response to an associated total signal power sensed by an associated one of the optical power monitors, the compensating wavelength for maintaining a substantially constant optical signal power on the associated one of the optical signal paths; and

a multiplexer (404)(Fig. 4 of Ford) having a plurality of inputs, each of a plurality of the optical paths being coupled to an associated one of the optical inputs, the multiplexer (404) providing an output comprising the one or more separate optical signals on each of the plurality of optical paths.

4. Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ford et al (US Patent No. 6,392,769) in view of Okano et al (US Patent No. 6,449,074) and further in view of Miyachi et al (US Patent No. 5,920,414).

Regarding claims 6 and 9, the combination of Ford and Okano differs from claims 6 and 9 in that it does not specifically teach a plurality of detectors, each of which being coupled to an associated one of the optical power monitors for generating a respective

Art Unit: 2633

fault alarm in response to an associated total signal power sensed by the associated one of the optical power monitor. However, Miyachi a plurality of detectors (i.e., wavelength detectors 23, Fig. 2), each of which being coupled to an associated one of the optical power monitors (i.e., level detectors 22c, Fig. 2) for generating a respective fault alarm in response to an associated total signal power sensed by the associated one of the optical power monitor (col. 10, lines 6-50). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the plurality of detectors, each of which being coupled to an associated one of the optical power monitors for generating a respective fault alarm in response to an associated total signal power sensed by the associated one of the optical power monitor as taught by Miyachi in the system of the combination of Ford and Okano. One of ordinary skill in the art would have been motivated to do this since Miyachi suggests in column 10, lines 6-50 that using such a plurality of detectors, each of which being coupled to an associated one of the optical power monitors have advantage of allowing detecting the power level fault of the signal and to adjust the power level of the signal light to be become substantially constant.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Terahara (US Patent No. 6,535,309) discloses optical multiplexing/demultiplexing apparatus.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (703)306-5840.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

A handwritten signature in cursive script, appearing to read 'Hanh Phan', is written over a horizontal line.

Hanh Phan

11/17/2003